UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/428,679	10/27/1999	ADAM L. SELIGMAN	P98-1866	4978

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EXAMINER
NGUYEN, KIMBINH T

ART UNIT	PAPER NUMBER
2671	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/428,679	SELIGMAN, ADAM L.
	Examiner	Art Unit	
	Kimbinh T. Nguyen	2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _08 July 2004_.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _6,7,9-12,15-18,20 and 22-36_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) _31_ is/are allowed.
6) ☒ Claim(s) _6,9-12,15-18,20,22-26,28,29,32-36_ is/are rejected.
7) ☒ Claim(s) _7,27 and 30_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to amendment filed 07/08/04.

2.   Claims 6, 7, 9-12, 15-18, 20, 22-36 are pending in the application.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 12, 15, 17, 18, 20 and 22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Freedman et al., U.S. Patent No. 5,675,721 in view of Reiffin

(6,330,583)

Claims 12 and 17, Freedman et al discloses a computer system for rendering a

three dimensional scene (column 1 lines 5-11), comprising: a visualization console

including a graphics processor (microprocessors; col. 14, lines 36-37) and a display (fig

3)., a plurality of workstations (three computers; col. 10, lines 46-55), connected to the

visualization console by a high speed network to enable the visualization console and

the plurality of workstations to operate together (fig 3; col. 10, lines 41-54); each of the

plurality of workstations storing three dimensional objects, the stored three dimensional

objects collectively representing a three dimensional scene (column 5 lines 25-50); and

the visualization console storing identifiers of each of the three dimensional objects

stored at the plurality of workstations (column 5 lines 25-50); wherein the visualization

console is operable under user control to communicate requests to the plurality of

workstations over the high speed network, said request including identifiers of selected

ones of the three dimensional objects stored at the workstations representing a selected

view of the three dimensional scene (column 5 lines 25-50); the workstations are

responsive to received requests to operate to create LOD representations of the

respective stored three dimensional objects identified by the requests received from the

visualization console and to communicate the LOD representations of the selected three

dimensional objects to the visualization console for rendering by the visualization

console graphics processor to create a composite image display representation by the

visualization console display of the selected view of the three dimensional scene

(column 7 lines 35-50). However, Freedman does not disclose wherein the workstations

are operating in parallel, this is disclosed in Reiffin in column 2 lines 1-7. It would have

been obvious to one of ordinary skill in the art at the time the invention was made to

incorporate a parallel operating network taught by Reiffin into the computer network

data distribution system of Freedman for retrieving and rendering of 3D scene of 3d

object, because it would provide a system wherein a network of workstations or

personal computers may operate in parallel to form a powerful multi-computer system

for parallel processing of large time-consuming compute-intensive applications in a

fraction of the time that it would take any of the individual computers to do the job alone

(col. 2, lines 1-7).

Claim 15, Freedman et al discloses wherein the request include a specified level of detail for the LOD representations of the selected three dimensional objects to be created by the workstations (column 7 lines 35-50).

Claim 18, Freedman et al discloses wherein the visualization console includes means for distributing said three dimensional objects for storage at the plurality of workstations over the high speed network (column 5 lines 25-50).

Claim 20, Freedman et al discloses wherein the request include a specified level of detail for the LOD representations to be created from the three dimensional objects stored at the workstations (column 7 lines 35-50).

Claim 22, Freedman et al discloses means for receiving an input from a user on the first computer column 5 lines 25-50); means for processing the input to determine a first three dimensional scene that corresponds with the input (column 5 lines 25-50); and means for receiving subsequent inputs from the user and processing the inputs to determine subsequent three dimensional scenes that correspond with the subsequent inputs, wherein the user interactively controls the display of the subsequent three dimensional scenes by subsequent inputs (column 5 lines 25-50).

5.   Claims 6, 9-11, 16, 23-26, 28-29, 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freedman et al., U.S. Patent No. 5,675,721 in view of Reiffin (6,330,583) and Hoppe, U.S. Patent No. 5,963,209.

Claim 6, Freedman et al discloses a method for utilizing a network of computers to render a three dimensional scene (column 1 lines 5-10), comprising: sending a plurality of request from a first computer to a plurality of other computers over a high speed

network (column 5 lines 25-50), the plurality of other computers each storing high

resolution three dimensional (column 1 lines 5-15) scene objects (column 5 lines 25-50),

wherein the request identify selected three dimensional objects stored at the plurality of

other computers (column 5 lines 25-50), operating the plurality of other computers in

parallel to create respective LOD representations of the selected three dimensional

objects stored at the other computers; Freedman does not teach the workstations are

operating in parallel, this is disclosed in Reiffin in column 2 lines 1-7. It would have been

obvious to one of ordinary skill in the art at the time the invention was made to

incorporate a parallel operating network taught by Reiffin into the computer network

data distribution system of Freedman for retrieving and rendering of 3D scene of 3D

object, because it would provide a system wherein a network of workstations or

personal computers may operate in parallel to form a powerful multi-computer system

for parallel processing of large time-consuming compute-intensive applications in a

fraction of the time that it would take any of the individual computers to do the job alone

(col. 2, lines 1-7); communicating the respective LOD mesh representations 3d objects

stored at the other computers in parallel over network, and processing the received

LOD mesh in rendering pipeline to create a display image of 3d scene; Freedman et al

and Reiffin do not specifically mention mesh, this is disclosed in Hoppe (progressive

transmission and progressive mesh representation) in column 17 lines 33-65). It would

have been obvious to one of ordinary skill in the art at the time the invention was made

to use the progressive mesh taught by Hoppe into the system of Freedman et al and a

system of parallel processing taught by Reiffin for rendering 3d scene, because when

the transmitting computer stores a PM (progressive mesh) representation of an arbitrary

mesh in a database of 3d models and runs a progressive transmission software

application that implement s a transmitting process, it would render views of the mesh at

progressively finer levels of detail (col. 17, lines 49-60).

Claim 9, Freedman et al discloses wherein the requests include a specified level

of detail for creation of the LOD mesh representations from the stored high resolution

three dimensional objects (column 7 lines 35-50).

Claim 10, Freedman et al discloses wherein the creating step includes creating

LOD representations of the three dimensional objects with the specified level of detail

as contained in the requests (column 7 lines 35-50).

Claim 11, Freedman et al discloses receiving an input from a user on the first

computer column 5 lines 25-50); processing the input to determine a first three

dimensional scene that corresponds with the input (column 5 lines 25-50)., and

receiving subsequent inputs from the user and processing the inputs to determine

subsequent three dimensional scenes that correspond with the subsequent inputs,

wherein the user interactively controls the display of the subsequent three dimensional

scenes by subsequent inputs (column 5 lines 25-50).

Claim 16, Freedman et al does not disclose wherein the workstations create

meshes comprising LOD representations of the three dimensional objects with the

specified level of detail as contained in the requests. However, this is disclosed in

Hoppe in column 17 lines 33-65). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to use the mesh of Hoppe with the system of

Freedman et al because models in computer graphics are often represented using

triangle meshes because it is easier to associate attributes with it (column 1 lines 20-25

and lines 55-60).

Claims 23, 28, 32 and 33, Freedman et al discloses a method of displaying a

three dimensional scene image, comprising: from a first computer coupled to a display

(5g 3), transmitting a retrieval request to each of a plurality of second computers storing

three dimensional scene objects distributively stored at said second computers together

with associated identifiers (column 5 lines 25-50 and column 7 lines 35-50), said stored

three dimensional scene objects collectively representing a three dimensional scene,

said retrieval request including identifiers associated with stored scene objects

representing at least a portion of the three dimensional scene selected for display

(column 7 lines 35-50); the second computers retrieving and processing in parallel three

dimensional scene objects-stored at individual ones of the computers based on

matches between three dimensional scene object identifiers in the received request and

three dimensional scene objects stored at the second computers (column 5 lines 25-

50); the second computers communicating the processed three dimensional scene

object in parallel to a graphics rendering pipeline processor in the first computer to

render and create a display a representation of the selected portion of the three

dimensional scene assembled from the three dimensional scene object communicated

by the plurality of second computers to the first computer (column 5 lines 25-50).

However, Freedman et al does not specifically mention mesh, this is disclosed in Hoppe

in column 17 lines 33-65). It would have been obvious to one of ordinary skill in the art

at the time the invention was made to use the mesh of Hoppe with the system of

Freedman et al because models in computer graphics are often represented using

triangle meshes because it is easier to associate attributes with it (column 1 lines 20-25

and lines 55-60).

Claims 24, 29 and 34, Freedman et al discloses wherein each three dimensional

scene object identifier includes the location of that object in the three dimensional scene

(column 7 lines 35-50).

Claims 25, 29 and 35, Freedman et al discloses wherein the three dimensional

scene objects stored at the second computers include information concerning one or

more of geometry, color and texture of the object (column 5 lines 25-50).

Claims 26, 30 and 36, Freedman et al discloses wherein the stored three

dimensional scene objects are distributed in a predetermined manner amongst the

plurality of second computers (column 5 lines 25-50).

Allowable Subject Matter

6.   Claims 7,27 and 30 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

7.   Claim 31 is allowed.

The following is a statement of reasons for the indication of allowable subject

matter: Prior art of reference fails to disclose where a first computer transmits to and

distributively storing at a plurality of second computers a plurality of three dimensional

scene objects together with associated identifiers, said three dimensional scene objects

stored at the second computers collectively representing a three dimensional scene,

and storing at the first computer, identifiers for the respective three dimensional scene

objects stored at the plurality of second computers.

Response to Arguments

8.   Applicant's arguments filed 07/08/04 have been fully considered, the motivation

and the rejection of claims 6 and 12 have been modified by the same reference Reiffin

which applied in the rejection of claim 12, no new reference has been used and the

rejection of claims 6, 8-12, 15-18, 20, 22-26, 28, 29 and 32-36 are maintained.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

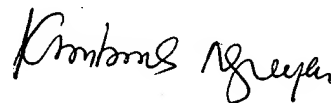than SIX MONTHS from the mailing date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimbinh T. Nguyen whose telephone number is (571) 272-7644. The examiner can normally be reached on Monday to Thursday from 7:00 AM to 4:30 PM. The examiner can also be reached on alternate Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached at (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 17, 2005

KIMBINH T. NGUYEN
PRIMARY EXAMINER